(1) பக்கங்களின் எண்ணிக்கை 66
(2) புதுக்கித் திருப்பிய நாள் 6/88
(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

# தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

பொதுப்பணி துறை

அரசாணை எண். 1624 W
மு. கோப்புத் தாள் எண். 7/1624 W
அச்சகம்
பலவகை

நாள் : 4-6-1888 ~~198~~

க்கவோ கண்டபடி கையாளவோ கூடாது

AB
AWB

ண. கா-1—18,006—15-6-87.

1624/1

4TH JUNE 1888, No. 1624 W., PUBLIC WORKS.

## GOVERNMENT OF MADRAS.

## PUBLIC WORKS DEPARTMENT.

**Buildings and Roads.**
**Civil Works.**

READ—the following papers :—

From R. W. BARLOW, Esq., C.S., Chairman, Harbour Trust Board, Madras, to the Chief Secretary to Government, Ootacamund, dated 25th April 1888, No. 312.

In forwarding, for the information of Government, the enclosed resolutions of the Trust at their meetings held on the 6th and 20th instants, I have the honor to report that there is no further use for the large titan wave-breaker crane on the northern arm at present, and will not be at all, should the north-east entrance be decided on, as the Board confidently hope will be the case.

2. The Trustees have, therefore, resolved to take down and remove this wave-breaker titan to the southern arm, where it can be of immediate use in protecting that arm by a 40-feet wave-breaker, the ordinary titan not being able to do this, and the recent block-work, so vigorously pushed forward by the Engineer, has at present only a 28-feet protection, or less width by 12 feet than what is contemplated in the sanctioned plan. The Trust consider this as obviously a more economical course than ordering a second wave-breaker crane, and leaving the one on the northern arm idle; should a second be found eventually to be required, it can at once be telegraphed for.

3. Mr. Thorowgood suggests that a less protection than 40 feet might possibly suffice, and that a north-eastern entrance, if decided on, might also cause a modification, and suggests a reference home; but the Trustees are unanimously of opinion that the harbour will, under any circumstances, require all the protection already contemplated according to the sanctioned design, in the event of a severe cyclone, and that the sooner the work is set about, and such afforded, the better; while any reference home, besides being, in their opinion, unnecessary and undesirable, would involve, owing to the further delay and establishments kept idle, such heavy pecuniary loss as would swallow up any possible saving by a screen of less than 40 feet.

4. The connected correspondence (in original to be returned) between the Trust and their Engineer on this subject is put up for reference if necessary; and should Government, differing from the Trust, consider any further inquiry advisable, I would very strongly submit that one of their own Public Works Engineers on the spot be deputed, so that the further unavoidable delay and loss resulting from a reference home may be avoided.

### ENCLOSURES.

From F. N. THOROWGOOD, Esq., M. INST. C. E., Superintendent, Madras Harbour Works, to the Chairman, Harbour Trust Board, dated Madras, 12th March 1888, No. 1547.

I have the honor to place the following before the Board for orders, as the question is beyond my jurisdiction as Executive Engineer of these works, and should be referred to Mr. Parkes as he designed the present section of the breakwaters.

2. If reference be made to the letter of the Secretary of State, dated 25th September 1884, (G.O. No. 3127 W. of 19th December 1884), it will be seen that the plant then under construction consisted of two "titan" cranes and one "wave-breaker" crane. The titan cranes are

for working ahead with the superstructure, but are also capable of being turned a quarter round so as to form the "wave-breaker" of random 30-ton blocks on the sea-face of each pier. The utmost reach or "overhang" of these cranes, however, is limited to forming a wave-breaker of random blocks about 28 feet wide, while the designed width of the wave-breaker for the new work is 40 feet, for forming which the special "wave-breaker crane" was supplied. I believe Mr. Parkes's idea was to complete the north pier as rapidly as possible, and afterwards to transfer the "wave-breaker" crane to the south pier to complete the protective works there, but I cannot find any actual orders to that effect.

3. The north pier's advance having been stopped for the last eleven months, and the possibility of its being stopped altogether make it necessary to reconsider the disposal of the cranes, or the desirability of getting out an additional "wave-breaker" crane *at once*.

4. The state of affairs is this. The 308 feet of south pier built this season has to be protected by 30-ton blocks. That protection is an essential part of the design of the committee presided over by Sir John Hawkshaw. The protective screen should be 40 feet wide at high-water level, but with the titan crane as a setting machine it is impossible to make the screen wider than 28 feet. To reach the full width either a new "wave-breaker" crane must be ordered, or the north pier one must be re-erected at the south pier. In the mean time, I am unable to carry out the full section of the design of August 1884.

5. I do not apprehend any actual danger to the work owing to the deficiency of 12 feet of wave-breaker blocks, but still I do not feel disposed to be responsible for recommending an abatement in the width.

6. The two "titans" and the one "wave-breaker" were all the cranes that Mr. Parkes intended that I should have for building the piers, but no doubt he did not anticipate the stoppage or possible abandonment of the north pier.

7. There are three courses open, and so long as there is a responsible Consulting Engineer, I think that he should be asked to point out which of the three is to be acted on. They are these:

(1) to proceed as at present with forming a "wave-breaker" 12 feet slighter than the design approved by the Secretary of State;
(2) to order by telegraph a second "wave-breaker crane";
(3) to dismantle the existing crane and rebuild it at the south pier.

8. Personally, I would recommend No. 1 system, but in doing so I do not hold myself responsible for the strength of the section, and I cannot but think the point is of sufficient importance to justify a rather elaborate telegram to England, which, under former conditions, I could have sent myself, but now must, I believe, be sent through the Madras Government.

9. I ought to inform you that I had hoped to be able, by careful manipulation of the blocks, to get them to roll out to the full 40 feet width or nearly so, but the last week's experience shows me that this cannot be managed, and even attempting it is accompanied with danger of tilting the titan crane.

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From C. PINSENT, Esq., Secretary, Harbour Trust Board, to the Engineer, Harbour Trust Board, dated 24th March 1888, No. 7408.

I am directed to acknowledge the receipt of your letter, No. 1547, dated 12th instant, addressed to the Chairman in reference to the wave-breaker screen to the east wall of the harbour, and to forward herewith, for your information, copy of resolution passed thereon at the meeting of the Board held on the 16th idem.

2. The Trustees do not consider that any useful purpose could be served by telegraphing to England to inquire whether a screen 28 feet at the water-line will be sufficient, as you state that a protective screen 40 feet wide was considered an essential part of the design.

3. The Board are glad to note that you do not apprehend any actual danger to the work owing to the deficiency of 12 feet in the width of the screen, but regret that you have accepted the responsibility of departing from the sanctioned design, and they request that you will, in future, be good enough to give them the earliest possible information of any departure from it.

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Extract of Proceedings of the Trustees of the Harbour of Madras, at a meeting held at the offices of the Board on Friday the 16th day of March 1888.

* * * * *

6. Read letter from the Engineer, Harbour Trust Board, No. 1547, dated 12th March 1888, regarding the wave-breaker screen of the eastern wall of the harbour, and demi-official letters addressed to the Secretary on the subject.

Read Minutes by Mr. J. R. Hunter, Captain W. L. C. Baddeley, R.E., Captain H. A. Street, I.M., the Honorable Mr. S. R. Turnbull and Mr. V. Mahomed Sherieff.

Resolved that the Chairman be invited to explain the circumstances to Government.

* * * * *

(True Extract.)

(Signed) C. PINSENT,
Secretary, Harbour Trust Board.

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Extract of Proceedings of the Trustees of the Harbour of Madras, at a meeting held at the offices of the Board on Friday the 23rd day of March 1888.

* * * * *

4. Read again letter from the Engineer, Harbour Trust Board, No. 1547, dated 12th March, reporting that the titan crane at the south pier is unable to complete the full width of wave-breaker screen, to that portion of the eastern wall of the harbour recently built, which was contemplated in the sanctioned design.

Read draft reply thereto and Minutes by Captain H. A. Street, I.M., and Mr. King.

Approved. The Secretary will communicate the same to the Engineer.

* * * * *

(True Extract.)

(Signed) C. PINSENT,
Secretary, Harbour Trust Board.

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From F. N. THOROWGOOD, Esq. M. Inst., C. E., Superintendent, Madras Harbour Works, to the Chairman, Harbour Trust Board, dated Madras, 28th March 1888, No. 1630.

I have the honor to acknowledge the receipt of the letter from the Secretary, dated 24th March 1888, No. 7408, with copies of the Board's resolutions, dated 16th and 23rd March, upon my request that three vital points regarding the disposal of cranes and forming the wave-breaker at the south pier should be referred to the Consulting Engineer.

2. In my letter to you of 12th March I pointed out that either another wave-breaker crane should be ordered by telegraph, or that the existing one be re-erected at the south pier, or that I should receive instructions to go on for a *further* length in the present sanctioned manner of forming the screen or "wave-breaker" of 28 feet wide instead of the finished width of 40 feet. It was always intended that the titan cranes should commence the wave-breakers, and at the south pier the titan was for a certain distance to be the only machine, but subsequently a wave-breaker crane was to be applied to bring the screen to the finished 40 feet width. As I have already stated, I have received no instructions as to *when* the larger crane should be brought into use, but up to the present the "wave-breaker" has been formed as intended, only an extra width of screen will have to be added afterwards before the section can be considered complete.

3. I have asked you two weeks ago some very important questions regarding disposal of cranes for the future, as I consider we ought now to be preparing for bringing to its full width the "wave-breaker" for the next length of work. To these questions I have received no reply whatever. I ask you also that the opinion of the designer of the work should be taken as to whether the present system (approved and sanctioned by him for the earlier portions of the work) should be continued, and I am informed that such a reference "will serve no useful purpose." I do not think it presumptuous in me as Engineer of these works on which over a million sterling is to be spent, to say that I consider such a reference will serve a very useful purpose indeed, inasmuch as without it I cannot proceed into the deeper and more exposed work at the south pier on my own responsibility. To proceed *may* be perfectly safe, and what was intended at first, but I want to know whether this is considered so by the responsible persons.

4. Further, to my absolute astonishment, I am met with a statement so very damaging to my reputation, and so absolutely without any foundation that I am able to find, that I can only hope and believe the Harbour Trust Board have recorded it under a misconception. I am charged with "accepting the responsibility of departing from the sanctioned design," and the Board naturally express regret at such an unwarranted act.

5. I beg that you will be so good as at once to explain to me in detail (1) wherein I have accepted any responsibility of design, and (2) still more wherein have I deviated one jot from such design. Work is being carried on precisely as was intended thus far, but provision must be made for widening the screen of blocks at a future and not too distant date, unless I find that the Consulting Engineer's intention has been to wait till the end is reached before fully completing

the "wave-breaker," as will have to be done with the equally essential concrete capping *en masse*.

6. I have asked you to consult the Engineer responsible for the design. My suggestion is considered as useless, and I am charged with taking on myself the responsibility of departing from the sanctioned design, whereas I wish to avoid such responsibility by this very reference.

7. I beg that the Board will reconsider their resolution, and will, in detail, point out to me how I have in any way laid myself open to so damaging a charge as the Secretary's letter conveys. I cannot but think there has been a misconception.

8. Pending receipt of orders as to the disposal of the cranes for future work, I must bring the advance of the south pier to a stop.

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From R. W. BARLOW, Esq., C.S., Chairman, Harbour Trust Board, to the Engineer, Harbour Trust Board, dated Madras, 10th April 1888, No. 113.

I have the honor to acknowledge the receipt of your letter, No. 1630, dated 28th March 1888, which was considered by the Board at their last meeting, held on the 6th instant, together with your previous letter on the same subject, No. 1547, dated 12th March, and to forward herewith, for your information and guidance, copy of the resolution passed thereon. You will observe that the Board have adopted your proposal No. 3 at para. 7 of your No. 1547.

2. In reference to the concluding portion of the resolution, and para. 5 of your letter No. 1630, the Board wish to be informed how you reconcile your statement that you have not departed from the sanctioned design with para. 4 of your No. 1547, that a protective screen of 30-ton blocks 40 feet wide is an essential part of the design of the committee presided over by Sir John Hawkshaw.

3. The Trustees conclude that this design is the "sanctioned design," and that 40 feet width of screen was therein considered essential to the safety of the structure but they have no record of any details of the same, and are entirely guided in the conclusion they have arrived at on the point in question by your letters under reply; I have, therefore, the honor to request that you will be good enough to furnish, for the information of the Board, full particulars of the design upon which you are working.

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EXTRACT of Proceedings of the Trustees of the Harbour of Madras, at a meeting held at the offices of the Board on Friday the 6th day of April 1888.

* * * * *

2. [illegible]d letter from the Secretary, Harbour Trust Board, No. 7408, dated 24th March 1888, addressed b[illegible]rder of the Board to their Engineer, in reference to the wave-breaker screen to the east wall of [illegible] harbour. Read letter from the Engineer, Harbour Trust Board, No. 1630, dated 28th idem in reply thereto.

Read again previous correspondence on the subject.

Read Minutes by Messrs. J. R. Hunter, J. McLintock, Captain H. A. Street, Mr. G. L. Chambers and the Chairman.

Resolved that the wave-breaker crane be transferred to the south pier, and the wave-breaker screen to the east wall be completed according to the sanctioned design, as soon as practicable.

Resolved further that the Chairman be invited to address the Engineer in reference to his letter No. 1630.

* * * * *

(True Extract).

(Signed) C. PINSENT,
Secretary, Harbour Trust Board.

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From F. N. THOROWGOOD, Esq., M. INST. C. E., Superintendent, Madras Harbour Works, to the Chairman, Harbour Trust Board, dated Madras, 12th April 1888, No. 50.

I have the honor to acknowledge the receipt of your letter No. 113 of 10th April, which I have read with regret, as apparently there is no intention on the part of the Board to refer the engineering question of the south pier wave-breaker home to a higher authority, and at the same time, your letter conveys to me the impression that the Harbour Trustees consider that I may *still*, with justice, be charged with having "accepted the responsibility of departing from the sanctioned design." The question at issue will affect the whole future of the construction of the harbour, and I earnestly beg that it may be most seriously considered with regard only to the welfare of the works and not in an argumentative spirit.

2. In reply to the concluding portion of the first paragraph of your letter, I must call your attention to an important error. The Board is stated to have accepted "*my proposal*" No. 3 at para. 7 of my letter of 12th March. I must most emphatically protest that this is a wrong interpretation of my letter, and is putting upon me a responsibility which I decline to accept, unless I am Engineer-in-Chief of these works. I have put forward proposal No. 3 *as one of the points to be referred to a higher engineering authority*, and I asked that the Consulting Engineer's opinion be taken on this proposal together with two others. I am perfectly certain that if my letter be read again, you will see that it is not fair (indeed to my mind quite impossible) to call any proposal in para. 7 of that letter "my proposal" literally. I plainly say that three points should be referred to the Consulting Engineer, and I must disclaim all personal responsibility of acting on these proposals without such reference. But I refer to this matter again further on.

3. In reply to para. 2 of your letter, I really have nothing important to add to what I have stated in my letter of 28th March, No. 1630. The question is as simple as possible, and I hoped that I had most clearly shown it to be so. The *ultimate* width of the wave-breaker screen is to be 40 feet. The only crane capable of forming this width of screen is at the north pier. It was always intended that the titan cranes (capable only of forming about 28 feet of screen) should be used first, but that the larger "wave-breaker crane" should follow. In my progress report to Government for October 1885 (G.O. No. 2636 W., 6th November 1885), I stated with regard to the wave-breaker crane, "this machine will, in the first instance, be erected at the north pier, and when its work there is done, it will be transferred south". Now what I want to know is, how long is it considered safe by the designers of this work to use the titan only, or when should the 40-feet screen be commenced? Is it safe to build another 300 feet without providing for the full width of wave-breaker? I myself believe it would be safe, but it is not for me to decide.

4. The Board wish to know how I can reconcile my statement that I have not departed from the sanctioned design with para. 4 of my letter No. 1547, that "a protective screen of 30-ton blocks 40 feet is an essential part of Sir John Hawkshaw's committee's design." As a matter of fact, I would first point out that my letter is wrongly quoted. I simply said "a protective screen of 30-ton blocks was an essential part of the design," and subsequently remarked that this screen *should* be 40 feet wide.

5. However, I think these statements are so very easily reconcilable that I am much surprised at being challenged to reconcile them. The 40 feet width is the ultimate finished width; the 28 feet is the first stage of that width. An essential part of the design is the concrete *en masse* on top, but because I have omitted that, I have not departed from the design. The south pier is in a progressive state, and I wish to know how far I may go without bringing it to its complete state.

6. I still trust that the Board will be pleased to withdraw their charge of my having departed from the sanctioned design; otherwise I must, for my own reputation's sake, beg that the designers be referred to by Government, for they alone are capable of giving a final judgment on such a point.

7. With regard to the design of 1884, it will be found (precisely as supplied to me) in G.O. No. 3127 W., of 19th December 1884, with plans and sections, and I have no doubt that spare copies can be supplied much more rapidly than I could get manuscript copies and tracings made, but if none are available, I will at once set about making copies here.

8. With reference to the resolution of the Board, which accompanied your letter under reply, that I am to take down the wave-breaker crane at the north pier and re-erect it at the south, I must ask you to point out that this will be done entirely on the responsibility of the Board's order. I have, in this matter, only asked that a reference home be made. I must beg that this be most clearly understood, as, in case orders were received to proceed with the north pier, I should have no crane to protect the north wall to the full width. At present, as I understand the case, the Board takes the place of a Consulting Engineer, and so long as this is clearly understood and appreciated, there need be no hesitation as to what to do; but before dismantling the crane under reference, I should like to have this point of responsibility placed very clearly on record (especially in reference to my remarks in para. 2 *ante*).

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From R. W. BARLOW, Esq., C.S., Chairman, Harbour Trust Board, to the Engineer, Harbour Trust Board, dated Madras, 24th April 1888, No. 288.

I have the honor to acknowledge your No. 50, dated 12th April, and in reply to forward the resolution of the Board at their meeting on the 20th instant.

2. The Trustees do not desire to have less than the 40 feet of protection as contemplated in the sanctioned design, and consider that, as such is decided on, the sooner it is set about and afforded, the better; so that there is no necessity to incur the further delay and expense entailed by a reference home, which, of course, they would have to accept if they deviated from

the sanctioned design, *vide* Secretary of State's despatch, published in G.O. Mis. No. 58, Marine, dated 9th February 1887.

2. As regards your objection to the use of the expression "your proposal" in my No. 113, dated 10th April, para. 1. As I am responsible for the *wording* of the letter, I am quite willing to substitute the words "the course mentioned in para. 7 (3) of your No. 1547," or any other phrase you may suggest. The Trust has no desire to shift on you any undue responsibility.

Extract of Proceedings of the Trustees of the Harbour of Madras, at a meeting held at the offices of the Board on Friday the 20th day of April 1888.

* * * * *

3. Read again letter from the Engineer, Harbour Trust Board, No. 1547, dated 12th March in reference to the wave-breaker screen to the east wall of the harbour.

Read also letter No. 113, dated 10th April, addressed by the Chairman to the Engineer in reference thereto and to the Board's resolution No. 2, dated 6th April 1888, and read the Engineer's reply, No. 50, dated 12th idem.

Read Minutes by the Chairman, Captain H. A. Street, the Honorable Mr. S. R. Turnbull and Mr. J. R. Hunter.

Resolved that the Board adhere to their former resolution. The Engineer will be informed that he is incurring responsibility by his non-compliance with the instructions conveyed therein.

* * * * *

(True Extract.)

(Signed) C. PINSENT,
Secretary, Harbour Trust Board.

Transferred to the Public Works Department.

(By Order.)

(Signed) W. S. MEYER,
Assistant Secretary.

11th May 1888.

Order—dated 4th June 1888, No. 1624 W., Public Works.

The question referred for the decision of Government in the above correspondence is whether the orders issued by the Harbour Trust Board for the removal of the large titan crane from the northern to the southern arm of the harbour shall be confirmed at once, or further professional opinion obtained, either by reference home, or to an Engineer of the Public Works Department.

2. The Board have shown that there is no further use at present for this crane on the northern arm, and that it will not be required there at all, should the north-east entrance be decided on, as they confidently hope will be the case. Under these circumstances, and as there can be no doubt of its being desirable to complete the wave-breaker to full dimensions at once, His Excellency the Governor in Council approves of the Board's action in ordering the removal of the crane to the southern arm for this purpose, with the understanding that the work of widening the wave-breaker will not interfere with the construction of the southern arm of the harbour.

3. Ordered that a copy of these Proceedings be forwarded for the information of the Secretary of State for India.

(True Extract.)

Captain, R.E.,
Under-Secy. to Govt., P.W.D.

To the Chairman, Harbour Trust Board.
,, Marine Department.

Exd. F. R. Bantleman.
Spare Copies

1624
A

BUILDINGS AND ROADS.
CIVIL WORKS.

# Govt. of {1888} Madras.

## PUBLIC WORKS.

*Dated June, 4th.*

*Recd.* *Encl.*

**G.O., 4th June 1888, No. 1624 W.**

**JUNE.**

### Madras Harbour Works

Approving of the Board's action in ordering the removal of the large titan crane from the northern to the southern arm of the harbour, with the understanding that the work of widening the wave-breaker will not interfere with the construction of the southern arm.

---

1624/5

4th June 1888, No. $\frac{7}{1624\ W.}$, Public Works.

## PUBLIC WORKS DEPARTMENT.

Letter—to

The Right Honorable the SECRETARY of STATE for INDIA.

My Lord,

We have the honor to forward, for your Lordship's information, a copy of our Proceedings, No. 1624 W., dated 4th June 1888, passing orders on a reference made to us by the Madras Harbour Trust Board on the subject of the removal of the large titan crane from the northern to the southern arm of the harbour for the purpose of completing the wave-breaker to the full sanctioned dimensions. It will be seen that, under the circumstances stated by the Board as to the crane not being required on the northern arm, and looking to the advisability of at once completing the wave-breaker according to the sanctioned design, we have not thought it necessary to make any reference to Mr. Parkes in England on this matter of detail, and have confirmed the orders which the Board have thought it necessary to issue.

We have the honor to be,
My Lord,
Your Lordship's most obedient, humble servants,

(Signed) CONNEMARA.
( „ ) C. G. ARBUTHNOT.
( „ ) C. G. MASTER.
( „ ) P. P. HUTCHINS.

Ootacamund,
4th June 1888.

Exd. F. R. Bantleman.

## GOVT. OF MADRAS.

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*PUBLIC WORKS DEPARTMENT.*

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**Letter** to the Right Honorable
the Secretary of State for
India.

No. $\frac{7}{1624 \text{ W.}}$, dated 4th June 1888.

Forwarding copy of Proceedings passing orders on a reference from the Madras Harbour Trust Board on the subject of the removal of the large titan crane from the northern to the southern arm of the Madras Harbour for the purpose of completing the wave-breaker to the full sanctioned dimensions.

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Public Works Department.

1624/7

Read the following:—

Letter from the Chairman H. T. Board No. 312 d/ April 25/88,
Endorsement in Marine Department dated May 11. 1888.

FOR ORDERS.

The question for decision is whether the orders issued by the Board for removal of the large Titan ~~wave breaker~~ crane from the Northern to the Southern arm of the harbour shall be confirmed at once or further professional opinion obtained either by reference home or to an Engineer of the P. W. Department.

2 The Board state

that there is no further
use at present for the
wave breaker crane on
the Northern arm, and that
it will not be required
there at all should the
N. E. entrance be —
decided on, as they confidently
hope will be the case. It may be
noticed however that no reply has
as yet been received from the Board to the
[illegible] about the N. E. entrance &
the question cannot be considered
as settled.

3. Mr. Thompson urges a reference
to Mr. Parkes on the subject of
widening the wave breaker to full
sanctioned dimensions, which cannot
be done without the Titan, as, although
he believes the work already built
would be safe with the wave breaker
in its present state, he considers
that higher authority should be
referred to.

RB

[illegible]

1624/8

4. The Harbour Board are not at
liberty to make any alteration in
the sanctioned design of the Harbour,
but there can be no necessity for
a reference to Mr. Parkes, who is
understood now to hold the position
of Consulting Engineer to the Secretary
of State, on constructive points
which must from time to time arise.

5. There can be no doubt of its
being desirable to complete the
wave breaker to full dimensions at once if
it can be done without interfering
with the progress of the work, though
it may not be necessary to complete
it pari passu with the harbour work.
The only doubtful point is whether the
completion of the wave breaker will
not hinder the pushing on of the
S. arm; it is believed, however,
that the trucks conveying blocks
for the extension can pass under
the Titan, and it is therefore
suggested that the Board's action
in ordering the Titan Crane to be
removed to the S. arm for the
purpose of completing the

They were [illegible] there
seen them on the
Northern arm

C / Approved
[illegible]

The matter however is one to be
[illegible] here without delay

wave breaker be approved, with
the understanding that the Crown
will not be deprived on the N. arm
to the works for some time to come,
and that the work of widening the
wave breaker will not interfere with
the continuation of the N. arm
of the harbour.

Jole
12/10/85

The Board have not treated
[illegible] fairly in the
correspondence, but we
need not continue these [illegible]

1629/9

C. A. W.

1629/10

Proof of G O and Despatch to the Secretary of State on the subject of the removal of the large Titan crane from the northern to the southern arm of the Madras Harbour are herewith submitted for approval with reference to your instructions on the original draft order.

To facilitate work a fair copy of the Despatch to the Secretary of State is also sent for the signature of the

meantime

---

use, in protecting that arm by a

members of Govt

Cir 30.5.88

S A W

31/5

SofW

The fair copy of the despatch can be signed tomorrow in Council, if approved. The correspondence seems correctly printed.

R S
31. V. 88

SKW

Papers can be struck off.

R S
31-V-88

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**Harbour Trust Board Office,**

MADRAS, 25th April 1888.

No. 312.

1624
11

FROM

R. W. Barlow Esquire C. S.

CHAIRMAN, HARBOUR TRUST BOARD,

MADRAS,

TO

The Honorable Mr. H. E. Stokes C. S.

CHIEF SECRETARY TO GOVERNMENT,

*Marine Department.*

Ootacamund.

Sir

In forwarding for the information of Government, the enclosed resolutions of the Trust at their Meetings held on the 6th and 20th instants, I have the honor to report that there is no further use for the large Titan wave breaker crane on the Northern arm at present, and will not be at all, should the North East entrance be decided on, as the Board Confidently hope will be the case –

2. The Trustees have therefore resolved to take down and remove this wave breaker Titan to the Southern arm, where it can be of immediate use, in protecting that arm by a

40 feet wave breaker - the Ordinary Titan not being able to do this, and the present block work so vigorously pushed forward by the Engineer, has at present only a 28 feet protection or less width by 12 feet than what is contemplated in the sanctioned plan. The Trust Consider this as obviously a more economical Course than ordering a second wave breaker Crane, and leaving the one on the Northern arm idle - should a second be found eventually to be required, it can at once be telegraphed for.

3. Mr. Thorowgood suggests that a less protection than 40 feet might possibly suffice, and that a North Eastern entrance, if decided on, might also cause a modification, and suggests a reference Home, but the Trustees are unanimously of opinion that the Harbour will, under any circumstances require all the protection already contemplated, according to the sanctioned design, in the event of a severe Cyclone, and that the sooner the work is set about, and such afforded, the better; while any reference Home - besides being in their

opinion

opinion unnecessary and undesira would involve - owing to the further delay and establishments kept idl such heavy pecuniary loss as would swallow up any possible saving by a screen of less than 40 feet.

1624

4. The Connected Correspondenc× between the Trust and their Enginee on this subject, is put up for referenc if necessary; and should Governmen differing from the Trust - consider any further enquiry advisable, I woul very strongly submit that one of their own P.W.D. Engineers on the spot be deputed, so that the further unavoidable delay and loss resulting from a reference Home, may be avoided.

× in original to be returned.

I have the honor to be
Sir
Your most Obedient Servan

R.W. Barlow
Chairman
Harbour Trust Board

3127-8 w 19-12-84
2636 w 6-11-85
784-5 w 14-3-87
3484 w 20-12-87
15-3 w 16-1-88

SECRETARY TO GOVERNMENT
11 MAY 88
P.W. DEPARTMENT, MADRAS.

27 May 88

Transferred to the Public Works Department.

(By order)

W. J. [illegible]
Asst. Secretary

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MARINE DEPARTMENT.

P.W.C. No - 475

FROM

THE CHAIRMAN,
HARBOUR TRUST BOARD,
MADRAS,

TO

THE CHIEF SECRETARY TO GOVERNMENT,
Marine Department.

Ootacamund

DATED 28th April 1888.
RECEIVED —— R 21-5-88

ENCLOSURE 13.

No. 312.

CHIEF SECRETARY
27 APR 88

SUBJECT.

Submitting for the information of Government resolutions of the Harbour Trust Board regarding the wave breaker screen to the eastern side of the Harbour.

For orders.

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No. 15747

Enclosures 4

1624/1A

From

THE SUPERINTENDENT,
MADRAS HARBOUR WORKS,

To

The Chairman,
Harbour Trust Board
Madras

Madras, March 12th 1888.

Sir,

I have the honour to place the following before the Board for orders, as the question is beyond my jurisdiction as Executive Engineer of these works and should be referred to Mr. Parkes as he designed the present section of the breakwaters.

2. If reference be made to the letter of the Secretary of State dated September 25th 1884 (G.O. No. 3127 W of December 19th 1884) it will be seen that the plant then under construction consisted of two "Titan" cranes and one "Wavebreaker" crane. The Titan cranes are for working ahead with the superstructure, but are also capable of being turned a quarter round so as to form the "Wave breaker" of random 30 ton blocks on the sea face of each pier. The utmost reach or "overhang" of these cranes however is limited to forming a wave-breaker of random blocks about 28 feet wide, while the designed width

of the wave-breaker for the new work is 40 feet for forming which the special "Wave-breaker crane" was supplied. I believe Mr Parkes's idea was to complete the North pier as rapidly as possible and afterwards to transfer the "Wave breaker" crane to the South Pier to complete the protective works there, but I cannot find any actual orders to that effect.

3. The North pier's advance having been stopped for the last eleven months, and the possibility of its being stopped altogether make it necessary to re-consider the disposal of the cranes, or the desirability of getting out an additional "Wavebreaker" crane at once.

4. The State of affairs is this. The 305 feet of South pier built this season has to be protected by 30 ton blocks. That protection is an essential part of the design of the committee presided over by Sir John Hawkshaw. The protective Screen should be 40 feet wide at High Water level, but with the Titan crane as a setting machine it is impossible to make the Screen wider than 28 feet. To reach the full width either a new "Wave breaker" crane must be ordered, or the North pier one must be re-erected at

at the South pier. In the meantime I am unable to carry out the full section of the design of August 1884.

1624/15

5. I don't apprehend any actual danger to the work owing to the deficiency of 12 feet of wave breaker blocks, but still I do not feel disposed to be responsible for recommending an abatement in the width.

6. The two "Titans" and the one "Wavebreaker" were all the cranes that Mr Parkes intended that I should have for building the piers, but no doubt he did not anticipate the stoppage or possible abandonment of the North pier.

7. There are three courses open and so long as there is a responsible Consulting Engineer, I think that he should be asked to point out which of the three is to be acted on. They are these:-

(1). To proceed as at present with forming a "Wavebreaker" 12 feet slighter than the design approved by the Secretary of State.

(2). To order by telegraph a Second "Wavebreaker crane".

(3). To dismantle the existing crane and re-build it at the South pier.

8. Personally I would recommend No 1 system but in doing so I do not hold

myself responsible for the length of the section, and I cannot but think the point is of sufficient importance to justify a rather elaborate telegram to England, which under former conditions I could have sent myself, but now must I believe be sent through the Madras Government.

9. I ought to inform you that I had hoped to be able, by careful manipulation of the blocks, to get them to roll out to the full 40 feet width or nearly so but the last weeks experience shows me that this cannot be managed, and even attempting it is accompanied with danger of tilting the Titan crane.

I have the honour to be
Sir
Your most obedient servant

F. W. [illegible] M. Inst. C. E.
[illegible] Madras Harbour Works

E.12

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8/88

**Harbour Trust Board Office,**

MADRAS, 24 March 1888.

No. 7408

1629/16

From
THE SECRETARY,
Harbour Trust Board,
MADRAS.

To
The Engineer
Harbour Trust Board

Sir

I am directed to acknowledge the receipt of your letter No 1547 dated 12 instant addressed to the Chairman in reference to the wave breaker screen to the East wall of the Harbour, and to forward herewith for your information copy of resolution passed thereon at the meeting of the Board held on the 16th idem.

2. The Trustees do not consider that any useful purposes could be served by telegraphing to England to enquire whether a screen 28 feet at the water line will be sufficient, as you state that a protective screen 40 feet wide was considered an essential part of the design.

3. The Board are glad to note that

you do not apprehend any actual danger to the work owing to the deficiency of 12 feet in the width of the Screen but regret that you have accepted the responsibility of departing from the Sanctioned design and they request that you will in future be good enough to give them the earliest possible information of any departure from it.

G.O.
No 487

I have the honor to be
Sir
Your most Obedt Servt
Sd C Pinsent
Secretary
Harbour Trust Board
(True Copy)

C Pinsent

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1629
17

EXTRACT of Proceedings of the TRUSTEES of the HARBOUR of MADRAS, at a Meeting held at the Offices of the Board on Friday the 16th day of March 1888.

6. Read letter from the Engineer Harbour Trust Board No 1547 dated 12 March 1888 regarding the wave-breaker Screen of the eastern wall of the Harbour, and demi-official letters addressed to the Secretary on the Subject.

Read minutes by Mr J. R. Hunter Captain W. L. C. Baddeley R. E, Captain H. A Street I. M, the Honorable Mr S. R. Turnbull and Mr V. Mahomed Shariff.

Resolved - That the chairman be invited to explain the circumstances to Government

(True Extract)

C Pinsent
Secretary
Harbour Trust Board

8 81

1624/18

EXTRACT of Proceedings of the **TRUSTEES** of the **HARBOUR** of **MADRAS**, at a Meeting held at the Offices of the Board on Friday the 23rd day of March 1888.

× × × ×

4 Read again letter from the Engineer, Harbour Trust Board, No. 1547, dated 12th March, reporting that the Titan crane at the South Pier is unable to complete the full width of wave-breaker screen, to that portion of the eastern wall of the Harbour recently built, which was contemplated in the sanctioned design.

Read draft reply thereto and minutes by Captain H A Street I.M. and Mr. King.

Approved. The Secretary will communicate the same to the Engineer

× × × ×

True Extract

Secretary

Harbour Trust

No. 1630

9 31

1629/19

HARBOUR TRUST BOARD
23 MAR 88
MADRAS.

From

THE SUPERINTENDENT,

MADRAS HARBOUR WORKS,

To

The Chairman,
Harbour Trust Board,
Madras

Madras, 28th March 1888.

Sir,

I have the honour to acknowledge the receipt of the letter from the Secretary dated March 24th 1888 No. 7408 with Copies of the Board's resolutions dated March 16th and 23rd upon my request that three vital points regarding the disposal of Cranes and forming the wavebreaker at the South Pier should be referred to the Consulting Engineer.

2. In my letter to you of March 12th I pointed out that either another Wave breaker crane should be ordered by telegraph, or that the existing one be re-erected at the South Pier, or that I should receive instructions to go on for a further length in the present sanctioned manner of forming the screen or "wave breaker" of 28 feet wide instead of the finished width of 40 feet. It was always intended that the Titan cranes should commence the wave breakers, and at the South Pier the Titan was for a certain distance to be the only machine, but

subsequently a wave-breaker crane was to be applied to bring the screen to the finished 140 feet width – As I have already stated I have received no instructions as to *when* the larger crane should be brought into use, but up to the present the "wave-breaker" has been formed as intended, only an extra width of screen will have to be added afterwards before the section can be considered complete –

3. I have asked you two weeks ago some very important questions regarding disposal of cranes for the future as I consider we ought now to be preparing for bringing to its full width the "wave breaker" for the next length of work – To these questions I have received no reply whatever – I ask you also that the opinion of the designer of the work should be taken as to whether the present system (approved and sanctioned by him for the earlier portions of the work) should be continued, and I am informed that such a reference "will serve no useful purpose" – I do not think it presumptuous in me as engineer of these works on which over a million sterling is to be spent to say that I consider such a reference will serve a very useful purpose indeed – in as much as without it I cannot proceed into the deeper and more exposed work at

the

the South pier on my own responsibility – To proceed *may* be perfectly safe and what was intended at first, but I want to know whether this is considered so by the responsible persons.

1624/20

4. Further, to my absolute astonishment, I am met with a statement so very damaging to my reputation, and so absolutely without any foundation that I am able to find, that I can only hope and believe the Harbour Trust Board have recorded it under a misconception – I am charged with "accepting the responsibility of departing from the sanctioned design," and the Board naturally express regret at such an unwarranted act.

5. I beg that you will be so good as at once to explain to me in detail (1) wherein I have accepted any responsibility of design, and (2) still more wherein have I deviated one jot from such design – Work is being carried on precisely as was intended thus far, but provision must be made for widening the screen of blocks at a future and not too distant date, unless I find that the Consulting Engineers' intention has been to wait till the end is reached before fully completing the "wave breaker", as will have to be done with the equally essential concrete capping "en masse" –

I

6. This is asking you to consult the engineer responsible for the design — My suggestion is considered as useless and I am charged with taking on myself the responsibility of departing from the sanctioned design, whereas I wish to avoid such responsibility by this very reference.

7. Pray that the Board will reconsider their resolution and will in detail point out to me how I have in any way laid myself open to so damaging a charge as the Secretary's letter conveys. I cannot but think there has been a misconception.

8. Pending receipt of orders as to the disposal of the cranes for future work, I must bring the advance of the South Pier to a stop.

I have the honour to be
Sir
Your most obedient Servant,

F.W. Thorrowgood M. Inst. C.E.
Supt. Madras Harbour Works

E.S.
PW 4757

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1624/21

**Harbour Trust Board Office,**

MADRAS, 10 April 1888.

No. 113

From
R. W. Barlow Esq. C.S.
Chairman Harbour Trust Board.
MADRAS.

To
F. W. Thorrowgood Esquire
Engineer
Harbour Trust Board

Sir

I have the honour to acknowledge the receipt of your letter No 1630 dated 28 March 1888 which was considered by the Board at their last meeting held on the 6 instant, together with your previous letter on the same subject No 1547 dated 17 March, and to forward herewith for your information and guidance copy of the resolution passed thereon. You will observe that the Board have adopted your proposal No 3 at para 7 of your No 1547.

2. In reference to the concluding portion of the resolution, and para 5

of your letter No 1630 the Board wish to be informed how you reconcile your Statement that you have not departed from the Sanctioned design with para 4 of your No 1547 that a protective Screen of 30 ton blocks 40 feet wide is an essential part of the design of the Committee presided over by Sir John Hawkshaw

3 The Trustees conclude that this design is the "Sanctioned design" and that 40 feet width of Screen was therein considered essential to the Safety of the Structure but they have no record of any details of the same, and are entirely guided in the conclusion they have arrived at on the point in question, by your letters under reply; I have therefore the honour to request that you will be good enough to furnish

for

1280

1624/22

for the information of the Board full particulars of the design upon which you are working

I have the honour to be
Sir
Your most obdt. Servt
Sd. R. W. Barlow
Chairman
Harbour Trust Board

(True Copy)

Secretary, Harbour Trust Board.

13

1624/23

**EXTRACT of Proceedings of the TRUSTEES of the HARBOUR of MADRAS, at a Meeting held at the Offices of the Board on** Friday **the** 6th **day of** April **188**8.

× × ×

2. Read letter from the Secretary Harbour Trust Board No. 7408 dated 24th March 1888, addressed by order of the Board to their Engineer, in reference to the wave breaker screen to the east wall of the Harbour. Read letter from the Engineer Harbour Trust Board No. 1630 dated 28th idem in reply thereto.

Read again previous correspondence on the subject.

Read minutes by Messrs. J. R. Hunter, J. McClintock Captain B. A. Street Mr. G. L. Chambers and the Chairman.

Resolved that the wave breaker crane be transferred to the South Pier, and the wave breaker screen to the east wall be completed according to the sanctioned design, as soon as practicable.

Resolved further that the

Chairman

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E.4

1475

From

The

Harbour Trust Board,

MADRAS,

To

Dated }
Received } 188

No.

SUBJECT.

Chairman be invited to address the Engineer in reference to his letter No. 430.

(True Extract)

C. Vincent

Secretary
Harbour Trust Board.

E.3
P.W. 475/88

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(Circulate with No. 113 replied to)
124.

No. 50

APR 89

1624/24

From

THE SUPERINTENDENT,

MADRAS HARBOUR WORKS

To

The Chairman
Harbour Trust Board
Madras.

Madras, 12th April 188

Sir,

I have the honour to acknowledge the receipt of your letter No. 113 of 10th Apri which I have read with regret as appa there is no intention on the part of the Boa to refer the engineering question of the Tong pier wave breaker home to a higher authority, and at the same time your letter conveys to me the impression that the Harbour Trustees consider that I may still with justice be charged with having "accepted the responsibility of departing from the sanctioned design." The question at issue will affect the whole future of the construction of the Harbour and I earnestly beg that it may be most seri considered with regard only to the welfa of the works and not in an argumentative spirit.

2. In reply to the concluding portion of the first paragraph of your letter, I must call your attention to an important

[illegible] the Board [illegible] *
[illegible]
[illegible] the Consulting Engineers [illegible]
[illegible] my letter [illegible]
[illegible] paragraph 4 of that [illegible]
[illegible] the Consulting Engineers, and I [illegible]
[illegible] without due [illegible]

3. In reply to paragraph No. 2 of [illegible] letter [illegible] stated in my letter of March 25th 1885 [illegible] I had not clearly

* I am alone responsible for the words "my proposal" as drafted. I have no objection to altering them to "the course" or any other phrase suitable.

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clearly shows it to be so. The ultimate
A width of the wave breaker screen is
to be 40 feet. The only crane capable
of forming this width of screen is at
the North Pier. It was always intended
B that the Titan cranes (capable only of
forming about 28 feet of screen) should
be used first, but that the larger "wave
"breaker crane" should follow. In my
progress report to Government for October
1885 (G. O. No. 2636 W. 6th November 1885)
I stated with regard to the Wave breaker
crane, "this machine will in the first
C "instance be erected at the North pier
"and when its work there is done, it
"will be transferred South." Now what
I want to know is how long is it
considered safe by the designers of
D this work to use the Titan only, and
when should the 40 feet screen be
commenced? Is it safe to build another
300 feet without providing for the full
width of wave breaker? I myself believe
it would be safe, but it is not for me
to decide.

4. The Board wish to know how I
can reconcile my statement that I
have not departed from the sanctioned
design with paragraph 4 of my letter
No. 1514 that "a protective screen of 30
to about 40 feet is an essential

[illegible] the Harbour Committee
[illegible] as a matter of fact I would
suppose that that of my letter is wrongly
quoted I simply said a [illegible]
[illegible] of 20 ft [illegible] was an essential
part of the design" and subsequently
[illegible] that this design should
be 40 feet wide.

However, I think these statements
[illegible] fairly [illegible] that I
[illegible] the [illegible] yet challenged
[illegible] — The 40 feet width
[illegible] are finished width, the
[illegible] the first stage 20 ft at width } 6
[illegible] essential part of the design is
[illegible] be made on top, but
[illegible] I have noticed that I have
departed from the design. The
[illegible] agreement [illegible] } 7
[illegible] I may
[illegible]
[illegible]

I shall trust that the Board will
[illegible] to withdraw the charge
of my having departed from the
approved design, otherwise I must
[illegible] reputation's sake beg
that the designs be referred to by
[illegible] who alone are capable
of giving a sound judgement on
such a point.

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7. With regard to the design of 1884 it will be found (precisely as supplied to me) in C.O. No. 3127/W. of 19th December 1884, with plans and sections, and I have no doubt that spare copies can be supplied much more rapidly than I could get manuscript copies and tracings made, but if none are available I will at once set about making copies here.

8. With reference to the Resolution of the Board which accompanied your letter under reply, that I am to take down the Wave breaker crane at the North Pier and re-erect it at the South, I must ask you to point out that this will be done entirely on the responsibility of the Board's order — I have in this matter only asked that a reference home be made — I must beg that this be most clearly understood, as in case orders were received to proceed with the North pier I should have no crane to protect the North wall to the full width — At present as I understand the case, the Board takes the place of a Consulting Engineer and so long as this is clearly understood and appreciated there need be no hesitation as to what to do, but before

in dismantling the crane under
ference I should like to have this
int of responsibility placed very
early on record (especially in reference
my remarks in paragraph 2 ante)

I have the honor to be
Sir
Your most obedient Servant

F.N. Thorowgood
Supt. Madras Harbour Works.

1624
27

E.2
PN 4757/86

[illegible]

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18

**Harbour Trust Board Office,**

MADRAS, 24 April 1888.

No. 288

1624/28

FROM

R. W. Barlow Esq. C.S.

Chairman HARBOUR TRUST BOARD.

MADRAS,

TO

The Engineer

Harbour Trust Board.

Sir

I have the honor to acknowledge your No 50 dated 12 April and in reply to forward the resolution of the Board at their meeting on the 20th instant

2. The Trustees do not desire to have less than the 40 feet of protection as contemplated in the Sanctioned design, and consider that, as such is decided on, the sooner it is set about and afforded the better; so that there is no necessity to incur the further delay and expense entertailed by a reference Home, which of course they would have to accept if they deviated from the

sanctioned design vide Secretary of States despatch published in G. O. No 58 Mis Marine dated 9 February 1887.

3. As regards your objection to the use of the expression "your proposal" in my No 113 dated 10 April para 1; as I am responsible for the wording of the letter, I am quite willing to substitute the words "the course mentioned in para 7 (3) of your No 1547" or any other phrase you may suggest. The Trust has no desire to shift on you any undue responsibility.

I have the honor to be
Sir
your most obedt Servt
Sd. R. W. Barlow
Chairman
Harbour Trust Board

(True Copy)

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193

**EXTRACT of Proceedings of the TRUSTEES of the HARBOUR of MADRAS, at a Meeting held at the Offices of the Board on** Friday **the** 20th **day of** April **1888.**

1624
29

× × ×

3. Read again letter from the Engineer Harbour Trust Board No 1547 dated 12th March in reference to the wave breaker screen to the east wall of the Harbour. Read also letter No 113 dated 10th April addressed by the Chairman to the Engineer in reference thereto and to the Boards resolution No 2 dated 6th April 1888, and read the Engineers reply No 50 dated 12th idem.

Read minutes by the Chairman, Captain H. A. Street, the Honorable Mr S. R. Turnbull and Mr J. R. Hunter.

Resolved that the Board adhere to their former resolution. The Engineer will be informed that he is incurring responsibility by his non compliance with the instructions conveyed therein.

× × ×

(True Extract)

Secretary, Harbour Trust Board.

From
The
Harbour Trust Board,
Madras,
To
Dated 188
Received
No.

SUBJECT.

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No 1824

Public Works Department.

1624
31

# PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the

Read the following

Letter from the Chairman H. T. Board No 312 dated 25th April 1888
Endorsement in the Marine Dept dated 11th May 1888

The question referred for the decision of Government in the above correspondence is whether the orders issued by the Harbour Trust Board for the removal of the large Titan Crane from the Northern to the Southern Arm of the harbour shall be confirmed at once, or further professional opinion obtained, either by reference Home, or to an Engineer of the Public Works Department.

The Board state that there is no further use at present

Seen by Mr Courtenay

18-5-88

present for this crane on the Northern Arm, and that it will not be required there at all, should the Northeast entrance be decided on, as they confidently hope will be the case. Under these circumstances, and as there can be no doubt of its being desirable to complete the wave breaker to full dimensions at once — His Excellency the Governor-in-Council approves of the Board's action in ordering the removal of the crane to the Southern Arm for this purpose, with the understanding that the work of widening the wave breaker will not interfere with the construction of the southern Arm of the harbour.

Ordered that a copy of these Proceedings be forwarded for the information of the

Secretary

To
The Chairman M. H. Board
" Marine Department

[illegible]

[illegible] 6/6/88

231

Secretary of State for India.

1624/32

(H.E. 7/No. [illegible] d/ 4 June/88)

To
The Right Honble.
The Secretary of State for India.

My Lord.

We have the honor to forward for your Lordship's information, a copy of our Proceedings No. 1624 dated 5th ~~May~~ June 1888, passing orders on a reference made to us by the Madras Harbour Trust Board on the subject of the removal of the large Titan crane from the Northern to the Southern Arm of the harbour for the purpose of completing the wave breaker to the full sanctioned dimensions. It will be seen that under the circumstances stated by the Board as to the crane not being required on the Western Arm and looking to the admissibility of at once completing the wave breaker which is now much less than the proper width we have not thought it necessary to make any reference to Mr Parker in England on this matter of detail, and have confirmed the orders which the Board have thought it necessary to issue.

The Rt. Hon. the Presiden

Jde
15/1/88

Dealt with
16th of
1/88

[illegible]

1624
33

not being required on the Southern Arm, and looking to the advisability of at once completing the wave breaker which is now much less than the proper width, we have not thought it necessary to make any reference to Mr Parkes in England on this matter of detail, and have confirmed the orders which the Board have thought it necessary to issue.

John
15/5/88

Dealt with
16244 of
7/6/88

B to :
Nov 19 :

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Refd to C.E.W.
Immediate
11/5/88

[illegible]   16244
7
[illegible]   7/6/88

[illegible] of the Board's [illegible] in looking to [illegible] the large [illegible] Crane for [illegible] alteration to the [illegible] of the harbour [illegible] the [illegible] the wave breaker [illegible] of the [illegible]

[illegible] of [illegible] [illegible] from [illegible]

88